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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,279	03/24/2004	Yasuo Tomita	119231	3951
25944	7590	10/18/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			BOUTSIKARIS, LEONIDAS	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/807,279

Applicant(s)

TOMITA ET AL.

Examiner

Leo Boutsikaris

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AC

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/17/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

The abstract of the disclosure is objected to because it includes the word "comprising".  
Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda (US 6,479,193).

Regarding claims 1, 4, Maeda discloses a holographic recording medium for recording refractive index spatial distributions in the medium, i.e., holograms, the material comprising: a) a photopolymerizable compound, such as a photopolymerizable monomer, e.g., pentaerythritol triacrylate; b) a photopolymerization initiator and c) colloidal silica particles having diameter in

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the range 10-100 nm (lines 18-35, col. 4, lines 34-45, col. 5, lines 1-23, col. 9, lines 42-45, col. 17). The above range anticipates the claimed range of 4-30 nm, since the former overlaps and is sufficiently close to the latter, and according to MPEP 2131.03, "prior art which teaches a range within, overlapping, or touching the claimed range anticipates if the prior art range discloses the claimed range with sufficient specificity".

Regarding claim 2, the polymerizable compound has a refractive index 1.555 (lines 10-14, col. 5).

Regarding claim 5, the holographic medium is coated on a transparent substrate and the resulting film is covered with a protective material (line 63, col. 16 to line 6, col. 17, and lines 12-16, col. 8).

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima (JP 2003-084651).

Regarding claims 1, 4, Kojima discloses a holographic recording medium for recording refractive index spatial distributions in the medium, i.e., holograms, the material comprising: a) a photopolymerizable compound b) a photopolymerization initiator and c) colloidal silica particles having diameter less than 200 nm (see Abstract, [0030], [0032], in the translation provided by Applicant). The above range anticipates the claimed range of 4-30 nm, since the former overlaps and is sufficiently close to the latter, and according to MPEP 2131.03, "prior art which teaches a range within, overlapping, or touching the claimed range anticipates if the prior art range discloses the claimed range with sufficient specificity".

Regarding claim 2, the refractive index of the polymerizable compound is 1.6 ([0042]).

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Regarding claim 3, the silica particles are contained in a proportion based on the total volume which is 37.3% ([0042]).

Regarding claim 5, the holographic medium is coated on a transparent substrate and the resulting film is covered with a protective material ([0036]).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanigawa (US 2004/0096776).

Regarding claims 1, 4, Tanigawa discloses a holographic recording medium for recording refractive index spatial distributions in the medium, i.e., holograms, the material comprising: a) a photopolymerizable compound, b) a photopolymerization initiator and c) colloidal silica particles having diameter in the range 0.1-20 nm ([0099], claim 1). The above range anticipates the claimed range of 4-30 nm, since the former touches and is sufficiently close to the latter, and according to MPEP 2131.03, "prior art which teaches a range within, overlapping, or touching the claimed range anticipates if the prior art range discloses the claimed range with sufficient specificity".

Regarding claim 2, the refractive index of the polymerizable compound is 1.63 ([0127]).

Regarding claims 5-6, the holographic material is placed between a substrate and a cover, both of which are transparent plastic materials ([0104]).

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US 6,479,193).

Maeda discloses all the limitations of the above claim, including the limitation that the protective material is a transparent resin film. However, Maeda does not teach that the substrate is resin as well (he teaches that it is glass). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use transparent resin as the substrate for the holographic material, since it has been held to be within the ordinary skill of worker in the art to select a known material on the basis of its suitability for the intended use. *Sinclair & Carroll Co. v. Interchemical Corp.* 325 U.S. 327, 65 USPQ 297 (1945). One would have been motivated to use resin instead of glass, since the former is much easier to handle and less brittle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo Boutsikaris, Ph.D.  
Patent Examiner, AU 2872  
October 13, 2004

A handwritten signature in black ink, appearing to be 'LB' or a stylized version of the name.